Air Resources Board

Barbara Riordan, Chairman
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F M. Rooney
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MEMORANDUM

TO: Douglas Y. Okumura, Chief
Environmental Monitoring and Pest
Management Branch
Department of Pesticide Regulation

FROM: George Lew, Chief
Engineering and Laboratory Branch
Monitoring and Laboratory Division

DATE: December 15, 1998

SUBJECT: FINAL REPORT FOR THE FENAMIPHOS AIR MONITORING

Attached is the final "Report for the Application and Ambient Air Monitoring of Fenamiphos." The separate volume of appendices for the report has been forwarded to Pam Wales of your staff and is available upon request. We received and appreciate your comments (November 18, 1998 Memorandum, Okumura to Lew) on the draft report and have made the appropriate changes.

These results are intended for identifying the presence of fenamiphos in ambient air. Additional air monitoring near the use of fenamiphos may be necessary to determine if there is a need for mitigation. The locations of the ambient monitoring sites and the monitoring period should be evaluated when the 1997 fenamiphos use data becomes available.

If you or your staff have questions or need further information, please contact me at (916) 263-1630 or Mr. Kevin Mongar at (916) 263-2063.

Attachment

cc: Ray Menebroker, Chief (w/Attachment and Appendices)
Cosmo C. Insalaco, Fresno County Agricultural Commissioner (w/Attachment)
David L. Crow, SJVUAPCD (w/Attachment)
Pam Wales, DPR (w/Attachment and Appendices)
Sharon Seidel, OEHHA (w/Attachment)
Chuck Mourer, UCD Environmental Toxicology Dept. (w/Attachment)

State of California
California Environmental Protection Agency
AIR RESOURCES BOARD

Report for the Application and Ambient Air Monitoring of Fenamiphos in Fresno County

Engineering and Laboratory Branch

Monitoring and Laboratory Division

Project No. C97-039 (Application)
C97-003 (Ambient)

Date: December 9, 1998

Kevin Mongar, Project Engineer

Cynthia L. Castronovo, Manager
Testing Section

George Lew, Chief
Engineering and Laboratory Branch

Summary

Report for the Application and Ambient Air Monitoring of Fenamiphos in Fresno County

This report presents the results of application and ambient air monitoring for fenamiphos in Fresno County. Application monitoring was conducted around the use of fenamiphos on 4.4 acres of grapes from April 20 to April 24, 1998 and ambient monitoring was conducted to coincide with the use of fenamiphos on grapes from March 31 to May 9, 1997. Tables 4 and 5 present the results of application and ambient air monitoring for fenamiphos respectively. Laboratory results, in units of ug/sample, equal to or above the limit of quantitation (LOQ) are reported to 2 significant figures. Air concentration results (in units of ug/m^3 and pptv) are also reported to 2 significant figures.

The analytical LOQ for fenamiphos was 0.20 ug/sample. The air concentration, expressed in units of ug/m^3 (or pptv), associated with the LOQ is dependent on the volume of air sampled which varies from sample to sample. For a 24-hour sampling period at 15 Lpm the air concentration would be 0.0093 ug/m^3 (0.75 pptv) as associated with the LOQ.

None of the four application background samples collected were found to be above the LOQ for fenamiphos. Of the twenty-eight application samples collected (spikes, blanks, collocated and background samples excluded) two were found to be above the LOQ of 0.20 ug/sample. The highest fenamiphos concentration, 0.19 ug/m^3 (15 pptv), was observed at the north sampling site during the first sampling period.

Of the 116 ambient samples collected (spikes, blanks and colocated samples excluded), one was found to be above the LOQ. However, this detection could not be confirmed above 0.20 ug/sample by GC/MS analysis. Therefore, there were no confirmed detections of fenamiphos above 0.20 ug/sample (approximately 0.75 pptv).

Acknowledgments

Staff of the ARB Testing Section collected the application and ambient samples. Assistance was provided by the Fresno County Agricultural Commissioner's Office. Chemical analyses were performed by the Trace Analytical Laboratory at the University of California at Davis.

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Report for the Application and Ambient Air Monitoring of Fenamiphos in Fresno County

I. Introduction

At the request of the California Department of Pesticide Regulation (DPR) (March 14, 1997 Memorandum, Sanders to Lew), the Air Resources Board (ARB) staff determined airborne concentrations of the pesticide fenamiphos over a six week ambient monitoring program in populated areas of Fresno County, conducted to coincide with the use of fenamiphos as a systemic nematicide on grapes. (In 1995, of 190,814 pounds of fenamiphos used statewide, the largest use, 115,891 pounds, was on grapes). Application monitoring was also conducted in Fresno County around the use of fenamiphos on 4.4 acres of grapes. This monitoring was done to fulfill the requirements of AB 1807/3219 (Food and Agricultural Code, Division 7, Chapter 3, Article 1.5) which requires the ARB "to document the level of airborne emissions .... of pesticides which may be determined to pose a present or potential hazard..." when requested by the DPR. Method development and sample analyses were conducted by the Trace Analytical Laboratory (TAL) at the University of California Davis. Field monitoring was conducted by staff of the ARB Testing Section.

The "Protocol for the Ambient Air Monitoring of Fenamiphos in Fresno County During April, 1997" and the "Protocol for the Application Air Monitoring of Fenamiphos in the San Joaquin Valley" are enclosed separately as Appendix I (page 1 of a separate volume of appendices to this report).

The TAL report, "Method Development, Ambient Site and Application Site Monitoring for Fenamiphos in Air Samples Using XAD-4® as a Trapping Medium", is enclosed separately as Appendix II (page 22 of the separate volume of appendices to this report). The sampling/analysis Standard Operating Procedures (SOP) are also enclosed in Appendix II (page 24 of the separate volume of appendices to this report).

The pesticide use report (Bayer Corporation) for the application study is enclosed separately as Appendix III (page 71 of the separate volume of appendices to this report).

The DPR's March 14, 1997 memorandum, "Monitoring Recommendation for Fenamiphos" is enclosed separately as Appendix IV (page 73 of the separate volume of appendices to this report).

The application and ambient field log sheets are enclosed separately as Appendix V (page 81 of the separate volume of appendices to this report).

The application meteorological monitoring results are enclosed separately as Appendix VI (page 92 of the separate volume of appendices to this report).

II. Chemical Properties of Fenamiphos

Fenamiphos (CAS:22224-92-6) exists as a colorless solid. Fenamiphos has a molecular formula of $C_{13}H_{22}NO_3PS$, a formula weight of 303.40 g/mole. It has a water solubility of 700 mg/L at 20 °C, and a vapor pressure of 1.0×10^{-6} mmHg at 30 °C. Fenamiphos is miscible with acetone, dimethylsulfoxide, ethanol and various other organic solvents.

In soil, fenamiphos oxidizes to the corresponding sulfone and sulfoxide. Its half-life in Arredondo soil is 38-67 days.

Fenamiphos' acute oral LD_{50} for male and female rats is 15.3 and 19.4 mg/kg. Its LC_{50} (96 hour) is 72.1 ug/L for rainbow trout, 9.6 ug/L for bluegill sunfish and 3,200 ug/L for goldfish. Fenamiphos has entered the risk assessment process at DPR under the SB 950 (Birth Defect Prevention Act of 1984) based on mutagenic effects.

III. Sampling

A sketch of the sampling apparatus is shown in Attachment A of Appendix I (appendices pg. 8). Samples were collected by passing a measured volume of ambient air through XAD-4 resin. The resin holders are 4-3/4" long x 1-55/66" O.D. and made of Teflon. Each holder contained approximately 30 cc of specially prepared XAD-4 resin provided by the TAL. The resin was held in place by stainless steel screens on each side of the resin and between the Teflon support rings. Calibrated rotameters were used to set and measure sample flow rates. Rotameters were calibrated using a certified digital bubble flowmeter. The flow rate, 15 Lpm, was accurately measured and the sampling system operated continuously with the exact operating interval noted. Samplers were leak checked prior to and after each sampling period with the sampling cartridges installed. Any change in the flow rates was recorded in the field log book (see appendices pg. 76). The resin tubes were protected from direct sunlight with aluminum foil and supported about 1.5 meters above the ground (or roof) during the sampling period. At the end of each sampling period the tubes were capped and placed in zip-lock plastic bags with an identification label affixed. The field log book was used to record start and stop times, sample identifications and any other significant comments. Subsequent to sampling, the samples were transported on dry ice, as soon as reasonably possible, to the TAL. The samples were stored in the freezer or extracted/analyzed immediately.

A. Application Monitoring

An approximately 4.4 acre plot of grapes (about 10 miles north of Fresno) was chosen for the application monitoring site. Refer to Figure 1 for a diagram of the application site. Refer to Appendix III (page 71 of appendices) for a copy of the pesticide use report prepared by the Bayer Corporation.

Information collected regarding the application included: 1) the elevation of each sampling station with respect to the field, 2) the orientation of the field with respect to North (identified as either true or magnetic), 3) an accurate record of the positions of the monitoring equipment with

respect to the field, including the distance each monitor is positioned away from the edge of the field and an accurate drawing of the monitoring site showing the precise location of the monitoring equipment and any wind obstacles with respect to the field, 4) the field size, 5) the application rate, 6) formulation and 7) method and length of application. Details regarding the site and application are summarized below in Table 1.

Table 1.
Application Information

Range/Township/Section:	R.19E/T.13S/S.5
Product Applied:	Nemacur 3EC
Type of Application:	Ground, soil incorporated
Application Rate:	2 gal. Nemacur 3EC per acre (6 lbs. fenamiphos A.I. per acre)
Applicator:	Bayer Corporation

A three day monitoring period was recommended in the DPR's March 14, 1997 "Air Monitoring Recommendation for Fenamiphos" with intended sampling times as follows: (where the first sample is started at the start of application) application + 1 hour, followed by one 2-hour sample, one 4-hour sample, two 8-hour samples and two 24-hour samples.

Background samples were taken at each position to establish if any fenamiphos was detectable in the air before the application (i.e., from nearby applications). The background samples were collected from 1430 on April 20 to 0715 on April 21, 1998 (16 3/4 hours). The April 21, 1998 application started at 0730 and ended at 0850. Soil incorporation (discing) of the Nemacur started at 1030 and ended at 1130. The plot was flood irrigated starting at 0700 on April 22 and continued through April 23, 1998. Referring to Figure 1, with the rows oriented east/west, the application started at the Northwest corner. Six rows of wine grapes approximately 100 feet to the southwest of the 4.4 acre plot were also treated.

Table 2.
Application Sampling Periods

Period		Date	Time
1	Application plus 1 hour	4/21/98	0700 to 1000
2	2 hour	4/21/98	1000 to 1200
3	4.25 hour	4/21/98	1200 to 1615
4	7.5 hours	4/21/98	1615 to 2345
5	8.75 hours	4/21-22/98	2345 to 0830
6	24 hours	4/22-23/98	0830 to 0830
7	24.5 hours	4/23-24/98	0830 to 0900

Four samplers were positioned, one on each side of the field. A fifth sampler was collocated at

the south position. The west, north, east and south samplers were positioned approximately 62 feet, 52 feet, 28 feet and 58 feet from the field respectively. The north side sampler was 2 feet higher than the level of the field. The samplers at the east, south and west sides were at the same elevation as the field. The meteorological station was positioned just west of the south samplers (oriented toward geographic north).

The meteorological station was set up to determine wind speed and direction, barometric pressure, relative humidity and air temperature. This station continued to operate continuously throughout the sampling period collecting data at 1 minute intervals using a data logger. The raw meteorological station data will be forwarded along with this report on a 1.44 MB diskette (comma delimited format). Appendix VI (page 92 of the appendices) lists the meteorological station data for the wind direction and speed, barometric pressure, relative humidity and air temperature in 15 minute averages for the test period. The data listed for the wind direction is the arithmetic average and is not valid when the wind direction varies around 0 degrees. An appropriate direction averaging program is needed if 15 minute averages are required for wind direction. ARB staff noted the degree of cloud cover, on the sample log sheet, whenever sample cartridges were changed. The skies were clear during the first several days of sample collection and were partly cloudy during the last day.

B. Ambient Monitoring

Ambient monitoring took place during a six week period from March 31 to May 9, 1997. Four sampling sites were selected by ARB personnel from the areas of Fresno County where grape farming is predominant and in relatively high population areas or in areas frequented by people. Sites were selected with considerations for both accessibility and security of the sampling equipment. Background samples were collected in downtown Fresno. The five sites are listed in Table 3. Twenty-four hour (approximately) samples were taken Monday through Friday (4 samples/week) at a flow rate of 15 liters per minute. Twenty-four discreet sampling-days were monitored at each site (only 20 at site WU) for a total of 116 samples (plus 30 collocated samples, 6 trip blanks and 15 quality assurance spikes).

Table 3.
Ambient Sampling Sites

FOW	Fremont Middle School 306 E. Tuolumne Fowler, CA 93625 Range/Township/Section: R.21E/T.15S/S.15-NW1/4	(209) 834-2591 Eric Sederquist Assist. Superintendent
ARB	Air Resources Board, Ambient Air Monitoring Station 3425 N First, Suite 205B Fresno, CA 228-1825 Range/Township/Section: R.20E/T.13S/S.22-SE1/4 of SE1/4	(209) 228-1825 Dave Wilkerson
EAS	American Union Elementary School 2801 W. Adams Fresno, CA 93706 Range/Township/Section: R.20E/T.15S/S.18-NW1/4	(209) 268-1213 Mark Johnson, Superintendent
ALV	Alvina Elementary School 295 W. Saginaw Caruthers, CA 93609 Range/Township/Section: R.20E/T.16S/S.9-SE1/4	(209) 864-9411 Larry Wilson, Principal
WU	Washington Union High School 13883 S. Lassen Avenue Fresno, CA 93706 Range/Township/Section: R.20E/T.15S/S.9-NE1/4	(209) 485-8805 Bill Griffin, Principal

The Fremont Middle School is in the town of Fowler. There are grape fields directly to the north at a distance of approximately 200 yards. Grapes are also found to the west, south and east at distances of 2 to 5 miles. The sampling unit was placed on the roof of a single story building at a height of approximately 13 feet. The sampling cartridges were positioned approximately 4 feet above the roof. Thus, air was sampled through the cartridges at a height of approximately 17 feet.

The background monitoring was conducted at the ARB's ambient air monitoring station in downtown Fresno. The nearest grapes would have been to the north and east at a distance of approximately 5 miles. The sampler was placed on a second story roof near other ARB monitoring equipment and the sample height was approximately 4 feet above the roof (approximately 35 feet above the ground).

The American Union Elementary School is situated in the area of Easton which is on the outskirts of Fresno. There are grape fields directly to the east and south at distances of approximately 70 yards and 200 yards respectively. The sampling unit was placed on the roof of a pumphouse building at a height of approximately 10 feet. The sampling cartridges were positioned approximately 4 feet above the roof. Thus, air was sampled through the cartridges at

a height of approximately 14 feet.

The Alvina Elementary School is located in a rural area outside of the small town of Caruthers. There are grape fields directly to the east at a distance of approximately 70 yards. Grapes are also found to the north, south and west at distances of 100 to 200 yards. The sampling unit was placed on the top of a pumphouse building at a height of approximately 9 feet. The sampling cartridges were positioned approximately 4 feet above the roof. Thus, air was sampled through the cartridges at a height of approximately 13 feet.

The Washington Union High School is situated in the area of Easton which is on the outskirts of Fresno. There are grape fields directly to the west at a distance of approximately 100 yards. Grapes are also found to the north, south and east at distances of 1 to 2 miles. The sampling unit was placed on the roof of a single story storage container at a height of approximately 8 feet. The sampling cartridges were positioned approximately 4 feet above the roof. Thus, air was sampled through the cartridges at a height of approximately 12 feet.

IV. Analytical Methodology

"The Standard Operating Procedures for Sampling and Analysis of Fenamiphos" are enclosed as Appendix II (page 24 of appendices). The procedures specify that the exposed XAD-4 resin tubes are stored in an ice chest on dry ice or in a freezer until desorbed with 75 mL of ethyl acetate. An aliquot is oxidized with potassium permanganate to fenamiphos sulfone then concentrated prior to injecting 4 uL on to a gas chromatograph equipped with a flame photometric detector. Results are mathematically converted back to parent compound and reported as total fenamiphos.

V. Application and Ambient Results

Tables 4 and 5 present the results of application and ambient air monitoring for fenamiphos respectively. Laboratory results, in units of ug/sample, equal to or above the limit of quantitation (LOQ) are reported to 2 significant figures. Air concentration results (in units of ug/m^3 and pptv) are also reported to 2 significant figures. The TAL did not report results below the LOQ (e.g., greater than LOD (MDL) but less than LOQ). The equation used to convert fenamiphos air concentration from units of ug/m^3 to volume/volume units at 1 atmosphere and 25 °C is:

$$\text{pptv} = (1000) \times (\text{ug/m}^3) \times \frac{(0.0820575 \text{ liter-atm/mole-°K})(298 \text{°K})}{(1 \text{ atm})(303.4 \text{ gram/mole})} = (80.6) \times (\text{ug/m}^3)$$

On page 6 of the laboratory report (page 27 of the appendices) the minimum detection limit is listed as 0.10 ug/sample and was determined as the minimum concentration injected (50 pg/uL) times the minimum total volume (1.0 mL) times the dilution factor (one-half of the sample used). However, the TAL report used a value of 0.20 ug/sample as the limit below which results were not reported (*this value will be called the LOQ in this report*). The air concentration, expressed in units of ug/m^3 (or pptv), associated with the LOQ is dependent on the volume of air sampled which varies from sample to sample. For a 24-hour sampling period at 15 Lpm the air concentration would be 0.0093 ug/m^3 (0.75 pptv) as associated with the LOQ.

A. Application Monitoring Results

The application sample results have also been summarized as associated with sampling period wind roses in Figure 3. The spokes of the wind roses correspond to the compass direction of origin of the wind. For example, the wind was predominantly from the north during the background sampling period. The segments of each spoke correspond to incremental increases in wind speed of 2 mph each. The length of the spoke (and each segment) corresponds to the portion of the sampling time that the wind was from that direction (at that velocity).

All four of the background samples collected were found to be below the LOQ. Of the twenty-eight application samples collected (spikes, blanks, collocated and background samples excluded) two were found to be above the LOQ of 0.20 ug/sample. The highest fenamiphos concentration, 0.19 ug/m^3 (15 pptv), was observed at the north sampling site during the first sampling period.

B. Ambient Monitoring Results

Of the 116 ambient samples collected (spikes, blanks and collocated samples excluded), one was found to be above the LOQ. However, this detection could not be confirmed above 0.20 ug/sample by GC/MS analysis. Therefore, there were no confirmed detections of fenamiphos above 0.20 ug/sample (approximately 0.75 pptv). Note that there were no samples collected at the WU site during the first week of sampling (technician error).

VI. Quality Assurance

Field quality control (QC) for the application monitoring included the following:

1) Four field spikes (same environmental and experimental conditions as those occurring at the time of ambient sampling) prepared by the Testing Section staff. The field spikes were obtained by sampling ambient air during the background sampling at 15 Lpm (collocated with a background sample, e.g., same sampling period);
2) four trip spikes;
3) replicate samples (collocated) collected at one of the four sampling sites;
4) a trip blank; and
5) background samples.

The DPR's March 14, 1997 memo, "Monitoring Recommendation for Fenamiphos", stated that "Field blank and field spike samples should be collected at the same environmental (temperature, humidity, exposure to sunlight) and experimental (similar air flow rates) conditions as those occurring at the time of sampling." The background samples were collected at the same environmental and experimental conditions as those occurring at the time of sampling (except for total sample volume). However, no "field blanks" were collected. Collection of true field blanks would involve rather complicated procedures and is not practical under field conditions. The trip blank was collected at the time of the sampling but did not experience the same environmental and experimental conditions except for transport and storage.

Field QC for the ambient monitoring included the following:

1) Three field spikes (same environmental and experimental conditions as those occurring at the time of ambient sampling) prepared by the Testing Section staff; the field spikes were obtained by sampling ambient air at the background monitoring site for 24 hour periods at 15 Lpm (collocated with an ambient sample, e.g., same sampling period);
2) Seven trip spikes;
3) replicate (collocated) samples taken for six dates at each sampling location; and
4) trip blanks collected once per week (see comment above regarding field blanks).

The instrument dependent parameters (reproducibility, linearity and LOQ) are discussed in the SOP (page 24 of the appendices.) A chain of custody sheet accompanied all samples. Rotameters were calibrated before the monitoring using a calibrated digital bubblemeter. The rotameter calibrations were also checked at the end of the study.

VII. Quality Assurance Results

A. Method Development

Refer to Appendix 1 (page 24 of the appendices), "Standard Operating Procedure for the Sampling and Analysis of Fenamiphos", for discussion and results of method development studies. Results of a freezer storage stability study (page 29 of the appendices) show that samples are stable for at least 45 days in the freezer. All samples were either extracted and analyzed immediately or were stored in the freezer for a maximum of 1 week.

B. Trip Blanks

The application and ambient trip blank results were all less than the LOQ of 0.20 ug/sample for fenamiphos.

C. Application Background Sample Results

All four of the application background samples had results less than the LOQ for fenamiphos.

D. Collocated Sample Results

The results of all application and ambient collocated samples were less than the LOQ.

E. Laboratory Spikes

Laboratory spikes are prepared at the same time and at the same level as the trip spike and field spike sets. The laboratory spikes are kept in a freezer until extraction and analysis. The extraction and analysis of laboratory, trip and field spikes normally occurs at the same time. Laboratory spikes for the application study were prepared by Testing Section staff. No laboratory spikes were made for the ambient study.

The laboratory spike results for the application study are listed in Table 6. Each of the four application spike sampling cartridges was spiked with 0.40 ug of fenamiphos. The average recoveries for the application lab spikes was 80%.

F. Trip Spikes

Trip spikes are prepared at the same time and at the same level as the laboratory spike and field spike sets. The trip spikes are kept in a freezer until transported to the field. The trip spike samples are kept on dry ice in an ice chest (the same one used for samples) during transport to and from the field and at all times while in the field except for trip spike sample log-in and labeling. Trip spikes for the application and ambient studies were prepared by Testing Section staff.

The trip spike results for the application and ambient studies are listed in Tables 7 and 9 respectively. Each of the four application spike cartridges and five ambient spike cartridges was spiked with 0.40 ug of fenamiphos. The average recovery for the application trip spikes was 98%. The average recovery for the ambient trip spikes was 95%. These results are consistent with the lab spike results and indicate that the sample transport, storage and analytical procedures used in this study produce acceptable results for fenamiphos.

G. Field Spikes

Field spikes are prepared at the same time and at the same level as the laboratory spike and trip spike sets. The field spikes are kept in a freezer until transported to the field. The field spike samples are kept on dry ice in an ice chest (the same one used for samples) during transport to and from the field and at all times while in the field except for the sampling period. Field spikes were collected at the same environmental and experimental conditions as those occurring at the time of ambient sampling. The field spikes were obtained by sampling ambient air through a previously spiked cartridge. (i.e., collocated with an ambient or background sample). Field spike sets for the application and ambient studies were prepared by Testing Section staff.

The field technicians did not sample air through field spikes FS-1 and FS-3, so these samples are considered additional trip spikes and are listed in Table 9. Ambient air was sampled through FS-2, FS-4 and FS-5 (collocated at background site).

The field spike results for the application and ambient studies are listed in Tables 8 and 10 respectively. Each of the four application spike cartridges and five ambient spike cartridges was spiked with 0.40 ug of fenamiphos. The average recovery for the application field spikes was 85%. The average recovery for the ambient field spikes *(FS-2, FS-4 and FS-5 only)* was 87%. These results are consistent with the lab and trip spike results and indicate that the sampling, sample transport, storage and analytical procedures used in this study produce acceptable results for fenamiphos.

FIGURE 1
FENAMIPHOS APPLICATION SITE

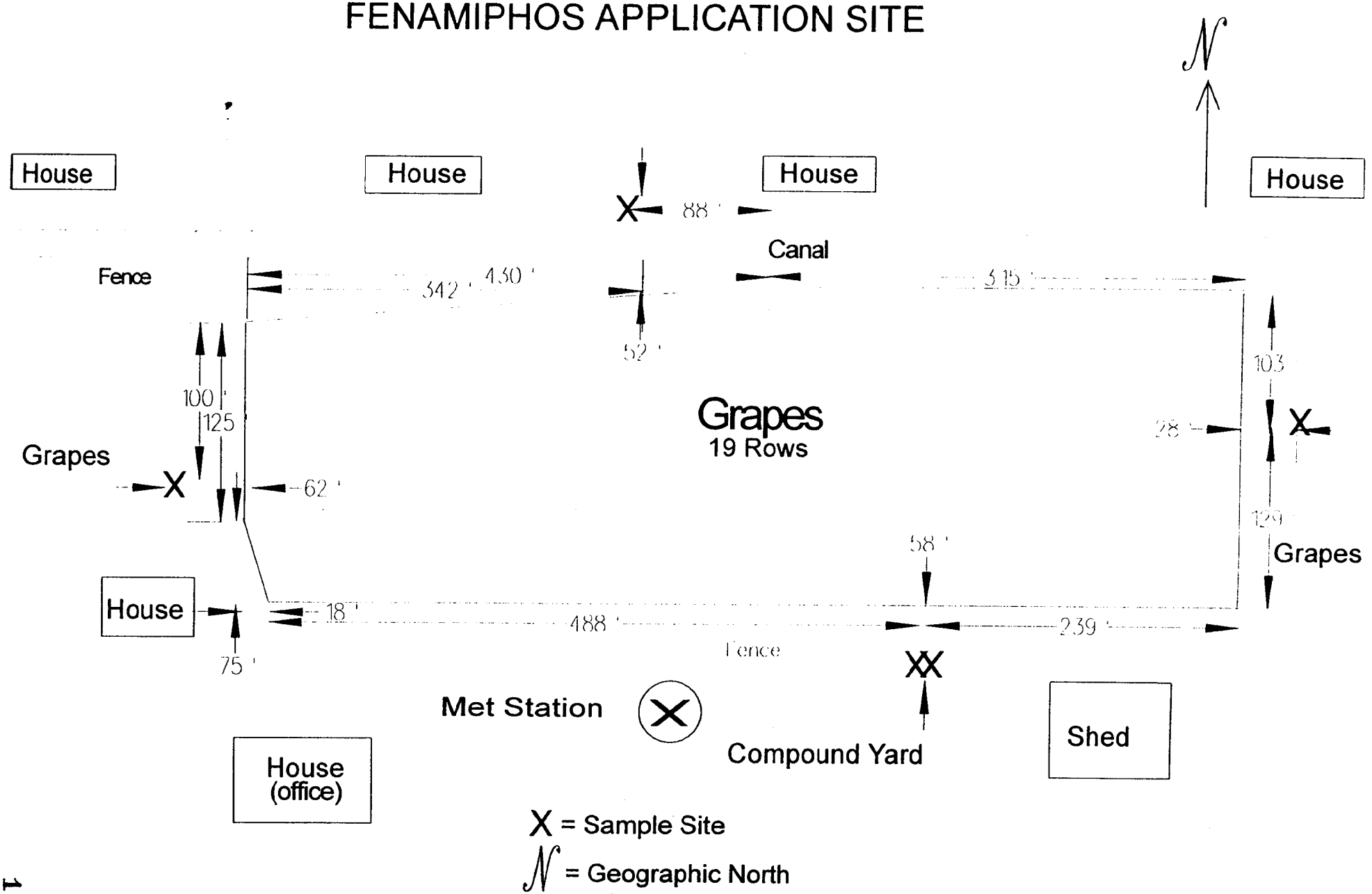
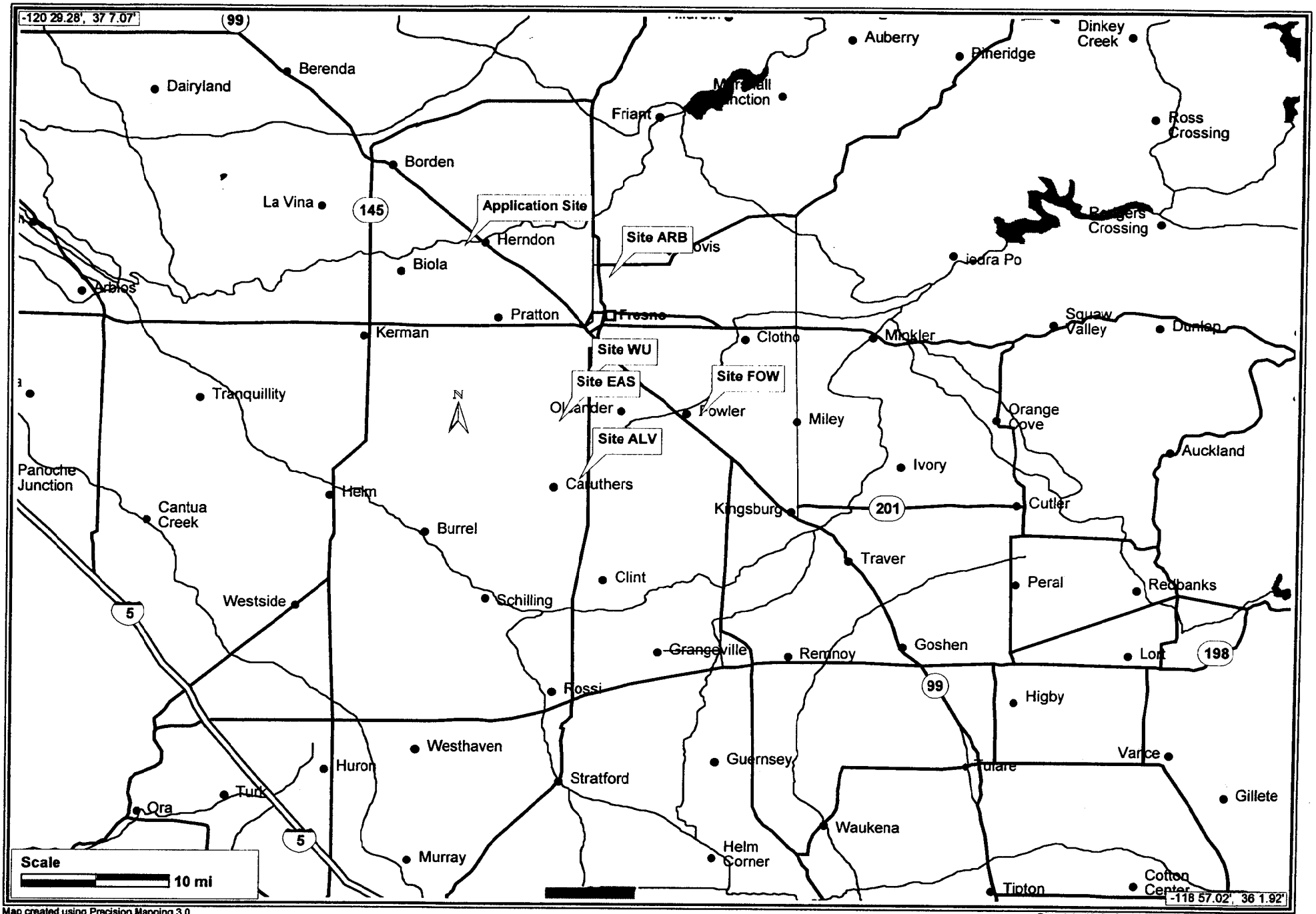


FIGURE 2. FENAMIPHOS AMBIENT MONITORING AREA



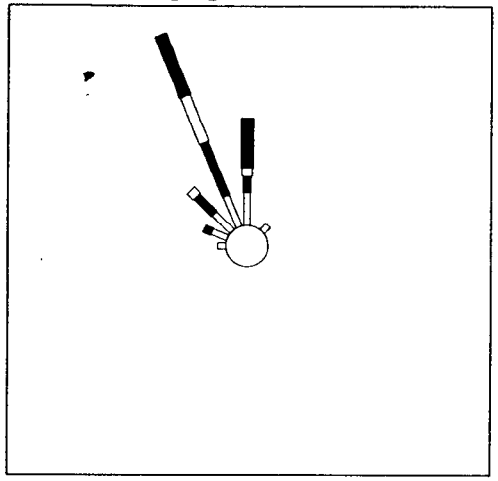
Map created using Precision Mapping 3.0

FIGURE 3. FENAMIPHOS APPLICATION DATA (ug/m3)

BACKGROUND
16.75 Hours

[N] <LOQ

[W] <LOQ



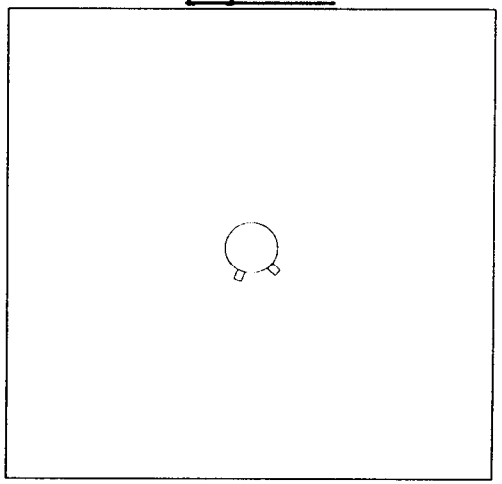
[E] <LOQ

[S] < LOQ
[SD] <LOQ

PERIOD 1
Application + 1 Hr

[N] 0.19

[W] <LOQ



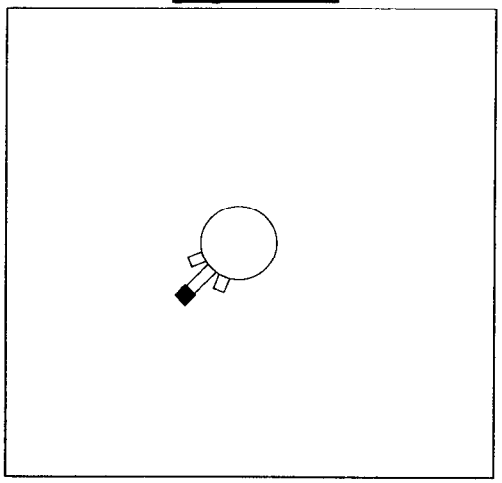
[E] <LOQ

[S] <LOQ
[SD] <LOQ

PERIOD 2
2 Hours

[N] <LOQ

[W] <LOQ



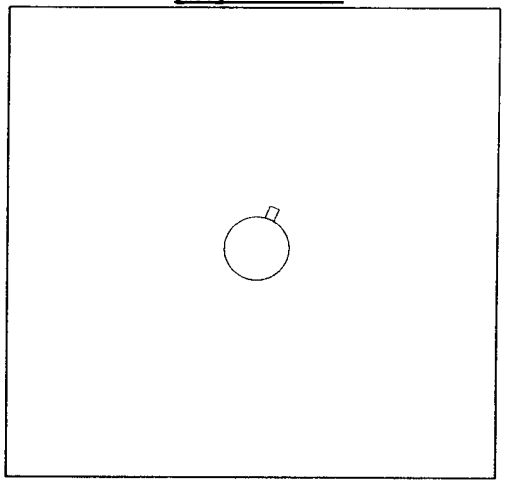
[E] 0.12

[S] <LOQ
[SD] <LOQ

PERIOD 3
4.25 Hours

[N] <LOQ

[W] <LOQ



E < LOQ

[S]< LOQ
[SD] <LOQ

FIGURE 3. FENAMIPHOS APPLICATION DATA (ug/m3)

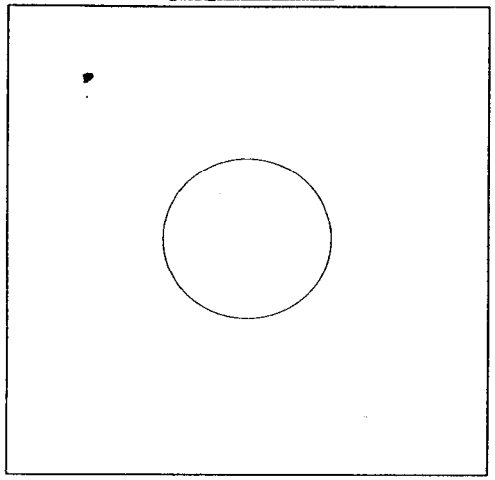
PERIOD 4
7.5 Hours

[N] <LOQ

[W] <LOQ

[E] <LOQ

[S] < LOQ
[SD] <LOQ



PERIOD 5
8.75 Hours

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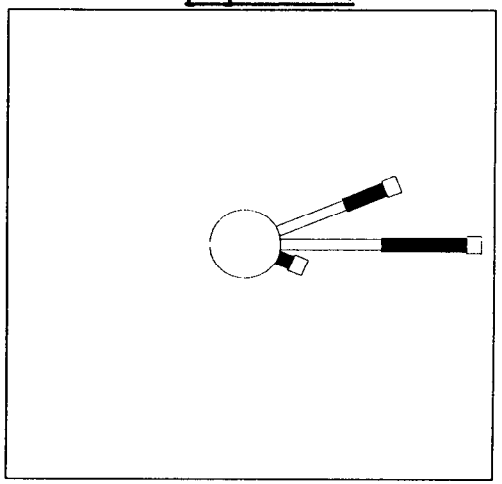
[W] <LOQ

[E] <LOQ

[S] <LOQ
[SD] <LOQ



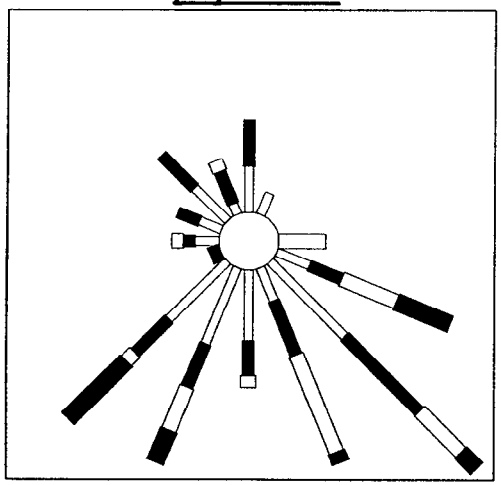
PERIOD 6
24 Hours

[N] <LOQ

[W] <LOQ

[E] <LOQ

[S] <LOQ
[SD] <LOQ



PERIOD 7
24.5 Hours

[N] <LOQ

[W] <LOQ

E < LOQ

[S]< LOQ
[SD] <LOQ

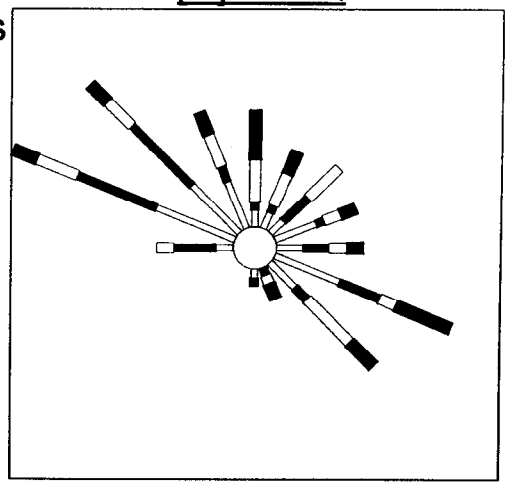


Table 4. Fenamiphos Application Monitoring Results

Log #	Sample ID	Start Date/Time	End Date/Time	Sample Time (min)	Sample volume (m^3)	Fenamiphos (ug/sample)	(ug/m3)	*(pptv)
1	BW	4/20/98 15:10	4/21/98 07:05	955	14.3	<LOQ	<LOQ	<LOQ
3	BE	4/20/98 15:15	4/21/98 07:10	955	14.3	<LOQ	<LOQ	<LOQ
5	BS	4/20/98 15:20	4/21/98 07:00	940	14.1	<LOQ	<LOQ	<LOQ
7	BN	4/20/98 15:30	4/21/98 07:20	950	14.2	<LOQ	<LOQ	<LOQ
13	S1	4/21/98 07:00	4/21/98 09:50	170	2.5	<LOQ	<LOQ	<LOQ
14	SD1	4/21/98 07:00	4/21/98 09:50	170	2.5	<LOQ	<LOQ	<LOQ
15	W1	4/21/98 07:05	4/21/98 09:55	170	2.5	<LOQ	<LOQ	<LOQ
16	E1	4/21/98 07:10	4/21/98 10:00	170	2.5	<LOQ	<LOQ	<LOQ
17	N1	4/21/98 07:20	4/21/98 10:05	165	2.5	4.8E-01	1.9E-01	1.6E+01
18	Blank	4/21/98 07:20	4/21/98 07:20	0	0.0	<LOQ	NA	NA
19	S2	4/21/98 09:50	4/21/98 11:55	125	1.9	<LOQ	<LOQ	<LOQ
20	SD2	4/21/98 09:50	4/21/98 11:55	125	1.9	<LOQ	<LOQ	<LOQ
21	W2	4/21/98 09:55	4/21/98 12:00	125	1.9	<LOQ	<LOQ	<LOQ
22	E2	4/21/98 10:00	4/21/98 12:00	120	1.8	2.1E-01	1.2E-01	9.4E+00
23	N2	4/21/98 10:05	4/21/98 12:05	120	1.8	<LOQ	<LOQ	<LOQ
24	S3	4/21/98 11:55	4/21/98 16:10	255	3.8	<LOQ	<LOQ	<LOQ
25	SD3	4/21/98 11:55	4/21/98 16:10	255	3.8	<LOQ	<LOQ	<LOQ
26	W3	4/21/98 12:00	4/21/98 16:15	255	3.8	<LOQ	<LOQ	<LOQ
27	E3	4/21/98 12:00	4/21/98 16:20	260	3.9	<LOQ	<LOQ	<LOQ
28	N3	4/21/98 12:05	4/21/98 16:05	240	3.6	<LOQ	<LOQ	<LOQ
29	S4	4/21/98 16:10	4/21/98 23:40	450	6.8	<LOQ	<LOQ	<LOQ
30	SD4	4/21/98 16:10	4/21/98 23:40	450	6.8	<LOQ	<LOQ	<LOQ
31	W4	4/21/98 16:15	4/21/98 23:50	455	6.8	<LOQ	<LOQ	<LOQ
32	E4	4/21/98 16:20	4/21/98 23:50	450	6.8	<LOQ	<LOQ	<LOQ
33	N4	4/21/98 16:05	4/21/98 23:55	470	7.1	<LOQ	<LOQ	<LOQ
34	S5	4/21/98 23:40	4/22/98 08:10	510	7.7	<LOQ	<LOQ	<LOQ
35	SD5	4/21/98 23:40	4/22/98 08:10	510	7.7	<LOQ	<LOQ	<LOQ

LOQ = 0.20 ug/sample
* pptv at 25 C and 1 atm
NA = Not Applicable

Table 4. Fenamiphos Application Monitoring Results

Log #	Sample ID	Start Date/Time	End Date/Time	Sample Time (min)	Sample volume (m^3)	Fenamiphos (ug/sample)	(ug/m3)	*(pptv)
36	W5	4/21/98 23:50	4/22/98 08:25	515	7.7	<LOQ	<LOQ	<LOQ
37	E5	4/21/98 23:50	4/22/98 08:30	520	7.8	<LOQ	<LOQ	<LOQ
38	N5	4/21/98 23:55	4/22/98 08:45	530	7.9	<LOQ	<LOQ	<LOQ
39	S6	4/22/98 08:10	4/23/98 08:15	1445	21.7	<LOQ	<LOQ	<LOQ
40	SD6	4/22/98 08:10	4/23/98 08:15	1445	21.7	<LOQ	<LOQ	<LOQ
41	W6	4/22/98 08:25	4/23/98 08:25	1440	21.6	<LOQ	<LOQ	<LOQ
42	E6	4/22/98 08:30	4/23/98 08:30	1440	21.6	<LOQ	<LOQ	<LOQ
43	N6	4/22/98 08:45	4/23/98 08:40	1435	21.5	<LOQ	<LOQ	<LOQ
44	S7	4/23/98 08:15	4/24/98 08:50	1475	22.1	<LOQ	<LOQ	<LOQ
45	SD7	4/23/98 08:15	4/24/98 08:50	1475	22.1	<LOQ	<LOQ	<LOQ
46	W7	4/23/98 08:25	4/24/98 09:00	1475	22.1	<LOQ	<LOQ	<LOQ
47	E7	4/23/98 08:30	4/24/98 09:05	1475	22.1	<LOQ	<LOQ	<LOQ
48	N7	4/23/98 08:40	4/24/98 08:45	1445	21.7	<LOQ	<LOQ	<LOQ
49	Blank2	4/24/98 08:45	4/24/98 08:45	0	0.0	<LOQ	NA	NA

LOQ = 0.20 ug/sample
* pptv at 25 C and 1 atm
NA = Not Applicable

Table 5. Fenamiphos Ambient Monitoring Results

Log #	Sample ID	Start Date/Time	End Date/Time	Sample Time (min)	Sample Volume (m3)	Fenamiphos (ug)		ug/m3	*(pptv)
1	ALV1	3/31/97 11:40	4/01/97 11:30	1430	21.2	<LOQ		<LOQ	<LOQ
2	EAS1	3/31/97 12:30	4/01/97 11:55	1405	20.8	<LOQ		<LOQ	<LOQ
3	FOW1	3/31/97 13:10	4/01/97 12:20	1390	20.6	<LOQ		<LOQ	<LOQ
4	ARB1	3/31/97 13:30	4/01/97 12:45	1395	20.6	<LOQ		<LOQ	<LOQ
5	ALV2	4/01/97 11:30	4/02/97 12:30	1500	22.2	<LOQ		<LOQ	<LOQ
6	EAS2	4/01/97 11:55	4/02/97 12:50	1495	22.1	<LOQ		<LOQ	<LOQ
7	FOW2	4/01/97 12:20	4/02/97 13:10	1490	22.1	<LOQ		<LOQ	<LOQ
8	ARB2	4/01/97 12:45	4/02/97 13:35	1490	22.1	<LOQ		<LOQ	<LOQ
9	ALV3	4/02/97 12:30	4/03/97 12:05	1415	20.9	<LOQ		<LOQ	<LOQ
10	ALV3D	4/02/97 12:30	4/03/97 12:05	1415	20.9	<LOQ		<LOQ	<LOQ
11	EAS3	4/02/97 12:50	4/03/97 12:30	1420	21.0	<LOQ		<LOQ	<LOQ
12	EAS3D	4/02/97 12:50	4/03/97 12:30	1420	21.0	<LOQ		<LOQ	<LOQ
13	FOW3	4/02/97 13:10	4/03/97 13:00	1430	21.2	<LOQ		<LOQ	<LOQ
14	FOW3D	4/02/97 13:10	4/03/97 13:00	1430	21.2	<LOQ		<LOQ	<LOQ
15	ARB3	4/02/97 13:35	4/03/97 13:30	1435	21.2	<LOQ		<LOQ	<LOQ
16	ARB3D	4/02/97 13:35	4/03/97 13:30	1435	21.2	<LOQ		<LOQ	<LOQ
17	ALV4	4/03/97 12:05	4/04/97 10:30	1345	19.9	<LOQ		<LOQ	<LOQ
18	EAS4	4/03/97 12:30	4/04/97 11:00	1350	20.0	<LOQ		<LOQ	<LOQ
19	FOW4	4/03/97 13:00	4/04/97 11:30	1350	20.0	<LOQ		<LOQ	<LOQ
20	ARB4	4/03/97 13:30	4/04/97 12:00	1350	20.0	<LOQ		<LOQ	<LOQ
21	BLANK	4/03/97 13:35	4/03/97 13:35	0	0.0	<LOQ		NA	NA
22	ALV5	4/07/97 09:30	4/08/97 11:20	1550	22.9	<LOQ		<LOQ	<LOQ
23	EAS5	4/07/97 09:45	4/08/97 11:35	1550	22.9	<LOQ		<LOQ	<LOQ
24	WU5	4/07/97 10:10	4/08/97 11:50	1540	22.8	<LOQ		<LOQ	<LOQ
25	FOW5	4/07/97 10:30	4/08/97 12:05	1535	22.7	<LOQ		<LOQ	<LOQ
26	ARB5	4/07/97 11:10	4/08/97 12:30	1520	22.5	<LOQ		<LOQ	<LOQ
27	ALV6	4/08/97 11:20	4/09/97 11:05	1425	21.1	<LOQ		<LOQ	<LOQ

LOQ = 0.20 ug/sample
* pptv at 25 C and 1 atm
** Analysis by GC/MS could not confirm the presence of fenamiphos in these samples.
NA = Not Applicable

Table 5. Fenamiphos Ambient Monitoring Results

Log #	Sample ID	Start Date/Time	End Date/Time	Sample Time (min)	Sample Volume (m3)	Fenamiphos (ug)		ug/m3	*(pptv)
28	EAS6	4/08/97 11:35	4/09/97 11:20	1425	21.1	<LOQ		<LOQ	<LOQ
29	WU6	4/08/97 11:50	4/09/97 11:35	1425	21.1	<LOQ		<LOQ	<LOQ
30	FOW6	4/08/97 12:05	4/09/97 12:00	1435	21.2	<LOQ		<LOQ	<LOQ
31	ARB6	4/08/97 12:30	4/09/97 12:25	1435	21.2	<LOQ		<LOQ	<LOQ
32	ALV7	4/09/97 11:05	4/10/97 12:05	1500	22.2	<LOQ		<LOQ	<LOQ
33	ALV7D	4/09/97 11:05	4/10/97 12:05	1500	22.2	<LOQ		<LOQ	<LOQ
34	EAS7	4/09/97 11:20	4/10/97 11:50	1470	21.8	<LOQ		<LOQ	<LOQ
35	EAS7D	4/09/97 11:20	4/10/97 11:50	1470	21.8	<LOQ		<LOQ	<LOQ
36	WU7	4/09/97 11:35	4/10/97 12:05	1470	21.8	<LOQ		<LOQ	<LOQ
37	WU7D	4/09/97 11:35	4/10/97 12:05	1470	21.8	<LOQ		<LOQ	<LOQ
38	FOW7	4/09/97 12:00	4/10/97 12:25	1465	21.7	<LOQ		<LOQ	<LOQ
39	FOW7D	4/09/97 12:00	4/10/97 12:25	1465	21.7	<LOQ		<LOQ	<LOQ
40	ARB7	4/09/97 12:25	4/10/97 12:50	1465	21.7	<LOQ		<LOQ	<LOQ
41	ARB7D	4/09/97 12:25	4/10/97 12:50	1465	21.7	<LOQ		<LOQ	<LOQ
42	ALV8	4/10/97 12:05	4/11/97 10:35	1350	20.0	<LOQ		<LOQ	<LOQ
43	EAS8	4/10/97 11:50	4/11/97 11:00	1390	20.6	<LOQ		<LOQ	<LOQ
44	WU8	4/10/97 12:05	4/11/97 11:10	1385	20.5	<LOQ		<LOQ	<LOQ
45	FOW8	4/10/97 12:25	4/11/97 11:20	1375	20.3	3.3E-01	**	1.6E-02	1.3E+00
46	ARB8	4/10/97 12:50	4/11/97 11:40	1370	20.3	<LOQ		<LOQ	<LOQ
47	BLANK	4/11/97 10:35	4/11/97 10:35	0	0.0	<LOQ		NA	NA
48	ALV9	4/14/97 12:45	4/15/97 11:35	1370	20.3	<LOQ		<LOQ	<LOQ
49	EAS9	4/14/97 13:05	4/15/97 11:55	1370	20.3	<LOQ		<LOQ	<LOQ
50	WU9	4/14/97 13:25	4/15/97 12:10	1365	20.2	<LOQ		<LOQ	<LOQ
51	FOW9	4/14/97 13:45	4/15/97 12:30	1365	20.2	<LOQ		<LOQ	<LOQ
52	ARB9	4/14/97 14:25	4/15/97 13:00	1355	20.1	<LOQ		<LOQ	<LOQ
54	ALV10	4/15/97 11:35	4/16/97 11:30	1435	21.2	<LOQ		<LOQ	<LOQ
55	EAS10	4/15/97 11:55	4/16/97 12:00	1445	21.4	<LOQ		<LOQ	<LOQ

LOQ = 0.20 ug/sample

* pptv at 25 C and 1 atm

** Analysis by GC/MS could not confirm the presence of fenamiphos in these samples.

NA = Not Applicable

Table 5. Fenamiphos Ambient Monitoring Results

Log #	Sample ID	Start Date/Time	End Date/Time	Sample Time (min)	Sample Volume (m3)	Fenamiphos (ug)		ug/m3	*(pptv)
56	WU10	4/15/97 12:10	4/16/97 12:20	1450	21.5	<LOQ		<LOQ	<LOQ
57	FOW10	4/15/97 12:30	4/16/97 12:40	1450	21.5	<LOQ		<LOQ	<LOQ
58	ARB10	4/15/97 13:00	4/16/97 13:20	1460	21.6	<LOQ		<LOQ	<LOQ
60	ALV11	4/16/97 11:30	4/17/97 11:05	1415	20.9	<LOQ		<LOQ	<LOQ
61	ALV11D	4/16/97 11:30	4/17/97 11:05	1415	20.9	<LOQ		<LOQ	<LOQ
62	EAS11	4/16/97 12:00	4/17/97 11:30	1410	20.9	<LOQ		<LOQ	<LOQ
63	EAS11D	4/16/97 12:00	4/17/97 11:30	1410	20.9	<LOQ		<LOQ	<LOQ
64	WU11	4/16/97 12:20	4/17/97 11:45	1405	20.8	<LOQ		<LOQ	<LOQ
65	WU11D	4/16/97 12:20	4/17/97 11:45	1405	20.8	<LOQ		<LOQ	<LOQ
66	FOW11	4/16/97 12:40	4/17/97 12:05	1405	20.8	<LOQ		<LOQ	<LOQ
67	FOW11D	4/16/97 12:40	4/17/97 12:05	1405	20.8	<LOQ		<LOQ	<LOQ
68	ARB11	4/16/97 13:20	4/17/97 12:40	1400	20.7	<LOQ		<LOQ	<LOQ
69	ARB11D	4/16/97 13:20	4/17/97 12:40	1400	20.7	<LOQ		<LOQ	<LOQ
70	ALV12	4/17/97 11:05	4/18/97 10:10	1385	20.5	<LOQ		<LOQ	<LOQ
71	BLANK	4/17/97 11:05	4/17/97 11:05	0	0.0	<LOQ		NA	NA
72	EAS12	4/17/97 11:30	4/18/97 10:25	1375	20.4	<LOQ		<LOQ	<LOQ
73	WU12	4/17/97 11:45	4/18/97 10:40	1375	20.3	<LOQ		<LOQ	<LOQ
74	FOW12	4/17/97 12:05	4/18/97 10:55	1370	20.3	<LOQ		<LOQ	<LOQ
75	ARB12	4/17/97 12:40	4/18/97 07:40	1140	16.9	<LOQ		<LOQ	<LOQ
82	ALV13	4/21/97 09:30	4/22/97 10:35	1505	22.3	<LOQ		<LOQ	<LOQ
83	EAS13	4/21/97 09:45	4/22/97 10:50	1505	22.3	<LOQ		<LOQ	<LOQ
84	WU13	4/21/97 10:00	4/22/97 11:00	1500	22.2	<LOQ		<LOQ	<LOQ
85	FOW13	4/21/97 10:15	4/22/97 11:20	1505	22.3	<LOQ		<LOQ	<LOQ
86	ARB13	4/21/97 10:40	4/22/97 11:40	1500	22.2	<LOQ		<LOQ	<LOQ
87	ALV14	4/22/97 10:35	4/23/97 10:45	1450	21.5	<LOQ		<LOQ	<LOQ
88	EAS14	4/22/97 10:50	4/23/97 11:00	1450	21.5	<LOQ		<LOQ	<LOQ
89	WU14	4/22/97 11:00	4/23/97 11:15	1455	21.5	<LOQ		<LOQ	<LOQ

LOQ = 0.20 ug/sample

* pptv at 25 C and 1 atm

** Analysis by GC/MS could not confirm the presence of fenamiphos in these samples.

NA = Not Applicable

Table 5. Fenamiphos Ambient Monitoring Results

Log #	Sample ID	Start Date/Time	End Date/Time	Sample Time (min)	Sample Volume (m3)	Fenamiphos (ug)		ug/m3	*(pptv)
90	FOW14	4/22/97 11:20	4/23/97 11:30	1450	21.5	<LOQ		<LOQ	<LOQ
91	ARB14	4/22/97 11:40	4/23/97 11:50	1450	21.5	<LOQ		<LOQ	<LOQ
92	ALV15	4/23/97 10:45	4/24/97 11:00	1455	21.5	<LOQ		<LOQ	<LOQ
93	ALV15D	4/23/97 10:45	4/24/97 11:00	1455	21.5	<LOQ		<LOQ	<LOQ
94	EAS15	4/23/97 11:00	4/24/97 11:20	1460	21.6	<LOQ		<LOQ	<LOQ
95	EAS15D	4/23/97 11:00	4/24/97 11:20	1460	21.6	<LOQ		<LOQ	<LOQ
96	WU15	4/23/97 11:15	4/24/97 11:30	1455	21.5	<LOQ		<LOQ	<LOQ
97	WU15D	4/23/97 11:15	4/24/97 11:30	1455	21.5	<LOQ		<LOQ	<LOQ
98	FOW15	4/23/97 11:30	4/24/97 11:45	1455	21.5	<LOQ		<LOQ	<LOQ
99	FOW15D	4/23/97 11:30	4/24/97 11:45	1455	21.5	<LOQ		<LOQ	<LOQ
100	ARB15	4/23/97 11:50	4/24/97 12:15	1465	21.7	<LOQ		<LOQ	<LOQ
101	ARB15D	4/23/97 11:50	4/24/97 12:15	1465	21.7	<LOQ		<LOQ	<LOQ
102	ALV16	4/24/97 11:00	4/25/97 09:45	1365	20.2	<LOQ		<LOQ	<LOQ
103	EAS16	4/24/97 11:20	4/25/97 10:00	1360	20.1	<LOQ		<LOQ	<LOQ
104	WU16	4/24/97 11:30	4/25/97 10:15	1365	20.2	<LOQ		<LOQ	<LOQ
105	FOW16	4/24/97 11:45	4/25/97 10:25	1360	20.1	<LOQ		<LOQ	<LOQ
106	ARB16	4/24/97 12:15	4/25/97 10:50	1355	20.1	<LOQ		<LOQ	<LOQ
107	BLANK	4/25/97 10:25	4/25/97 10:25	0	0.0	<LOQ		NA	NA
108	ALV17	4/28/97 10:20	4/29/97 10:45	1465	21.7	<LOQ		<LOQ	<LOQ
109	EAS17	4/28/97 10:35	4/29/97 11:00	1465	21.7	<LOQ		<LOQ	<LOQ
110	WU17	4/28/97 10:45	4/29/97 11:15	1470	21.8	<LOQ		<LOQ	<LOQ
111	FOW17	4/28/97 11:00	4/29/97 11:30	1470	21.8	<LOQ		<LOQ	<LOQ
112	ARB17	4/28/97 11:25	4/29/97 12:00	1475	21.8	<LOQ		<LOQ	<LOQ
113	ALV18	4/29/97 10:45	4/30/97 09:45	1380	20.4	<LOQ		<LOQ	<LOQ
114	EAS18	4/29/97 11:00	4/30/97 10:00	1380	20.4	<LOQ		<LOQ	<LOQ
115	WU18	4/29/97 11:15	4/30/97 10:15	1380	20.4	<LOQ		<LOQ	<LOQ
116	FOW18	4/29/97 11:30	4/30/97 10:30	1380	20.4	<LOQ		<LOQ	<LOQ

LOQ = 0.20 ug/sample

* pptv at 25 C and 1 atm

** Analysis by GC/MS could not confirm the presence of fenamiphos in these samples.

NA = Not Applicable

Table 5. Fenamiphos Ambient Monitoring Results

Log #	Sample ID	Start Date/Time	End Date/Time	Sample Time (min)	Sample Volume (m3)	Fenamiphos (ug)		ug/m3	*(pptv)
117	ARB18	4/29/97 12:00	4/30/97 10:55	1375	20.3	<LOQ		<LOQ	<LOQ
118	ALV19	4/30/97 09:45	5/01/97 10:05	1460	21.6	<LOQ		<LOQ	<LOQ
119	ALV19D	4/30/97 09:45	5/01/97 10:05	1460	21.6	<LOQ		<LOQ	<LOQ
120	EAS19	4/30/97 10:00	5/01/97 10:25	1465	21.7	<LOQ		<LOQ	<LOQ
121	EAS19D	4/30/97 10:00	5/01/97 10:25	1465	21.7	<LOQ		<LOQ	<LOQ
122	WU19	4/30/97 10:15	5/01/97 10:30	1455	21.5	<LOQ		<LOQ	<LOQ
123	WU19D	4/30/97 10:15	5/01/97 10:30	1455	21.5	<LOQ		<LOQ	<LOQ
124	FOW19	4/30/97 10:30	5/01/97 10:50	1460	21.6	<LOQ		<LOQ	<LOQ
125	FOW19D	4/30/97 10:30	5/01/97 10:50	1460	21.6	<LOQ		<LOQ	<LOQ
126	ARB19	4/30/97 10:55	5/01/97 11:20	1465	21.7	<LOQ		<LOQ	<LOQ
127	ARB19D	4/30/97 10:55	5/01/97 11:20	1465	21.7	<LOQ		<LOQ	<LOQ
128	ALV20	5/01/97 10:05	5/02/97 09:20	1395	20.6	<LOQ		<LOQ	<LOQ
129	EAS20	5/01/97 10:25	5/02/97 09:35	1390	20.6	<LOQ		<LOQ	<LOQ
130	WU20	5/01/97 10:30	5/02/97 09:50	1400	20.7	<LOQ		<LOQ	<LOQ
131	FOW20	5/01/97 10:50	5/02/97 10:05	1395	20.6	<LOQ		<LOQ	<LOQ
132	ARB20	5/01/97 11:20	5/02/97 10:25	1385	20.5	<LOQ		<LOQ	<LOQ
133	BLANK	5/02/97 09:20	5/02/97 09:20	0	0.0	<LOQ		NA	NA
134	ALV21	5/05/97 10:30	5/06/97 09:30	1380	20.4	<LOQ		<LOQ	<LOQ
135	EAS21	5/05/97 10:45	5/06/97 09:55	1390	20.6	<LOQ		<LOQ	<LOQ
136	WU21	5/05/97 11:00	5/06/97 10:10	1390	20.6	<LOQ		<LOQ	<LOQ
137	FOW21	5/05/97 11:15	5/06/97 10:30	1395	20.6	<LOQ		<LOQ	<LOQ
138	ARB21	5/05/97 11:40	5/06/97 11:00	1400	20.7	<LOQ		<LOQ	<LOQ
139	ALV22	5/06/97 09:30	5/07/97 09:35	1445	21.4	<LOQ		<LOQ	<LOQ
140	EAS22	5/06/97 09:55	5/07/97 09:50	1435	21.2	<LOQ		<LOQ	<LOQ
141	WU22	5/06/97 10:10	5/07/97 10:15	1445	21.4	<LOQ		<LOQ	<LOQ
142	FOW22	5/06/97 10:30	5/07/97 10:35	1445	21.4	<LOQ		<LOQ	<LOQ
143	ARB22	5/06/97 11:00	5/07/97 11:00	1440	21.3	<LOQ		<LOQ	<LOQ

LOQ = 0.20 ug/sample
* pptv at 25 C and 1 atm
** Analysis by GC/MS could not confirm the presence of fenamiphos in these samples.
NA = Not Applicable

Table 5. Fenamiphos Ambient Monitoring Results

Log #	Sample ID	Start Date/Time	End Date/Time	Sample Time (min)	Sample Volume (m3)	Fenamiphos (ug)		ug/m3	*(pptv)
144	ALV23	5/07/97 09:35	5/08/97 09:30	1435	21.2	<LOQ		<LOQ	<LOQ
145	ALV23D	5/07/97 09:35	5/08/97 09:30	1435	21.2	<LOQ		<LOQ	<LOQ
146	EAS23	5/07/97 09:50	5/08/97 09:50	1440	21.3	<LOQ		<LOQ	<LOQ
147	EAS23D	5/07/97 09:50	5/08/97 09:50	1440	21.3	<LOQ		<LOQ	<LOQ
148	WU23	5/07/97 10:15	5/08/97 10:10	1435	21.2	<LOQ		<LOQ	<LOQ
149	WU23D	5/07/97 10:10	5/08/97 10:10	1440	21.3	<LOQ		<LOQ	<LOQ
150	FOW23	5/07/97 10:35	5/08/97 10:35	1440	21.3	<LOQ		<LOQ	<LOQ
151	FOW23D	5/07/97 10:35	5/08/97 10:35	1440	21.3	<LOQ		<LOQ	<LOQ
152	ARB23	5/07/97 11:00	5/08/97 11:00	1440	21.3	<LOQ		<LOQ	<LOQ
153	ARB23D	5/07/97 11:00	5/08/97 11:00	1440	21.3	<LOQ		<LOQ	<LOQ
154	BLANK	5/08/97 10:15	5/08/97 10:15	0	0.0	<LOQ		NA	NA
155	ALV24	5/08/97 09:30	5/09/97 08:30	1380	20.4	<LOQ		<LOQ	<LOQ
156	EAS24	5/08/97 09:50	5/09/97 08:55	1385	20.5	<LOQ		<LOQ	<LOQ
157	WU24	5/08/97 10:10	5/09/97 10:05	1435	21.2	<LOQ		<LOQ	<LOQ
158	FOW24	5/08/97 10:35	5/09/97 10:35	1440	21.3	<LOQ		<LOQ	<LOQ
159	ARB24	5/08/97 11:00	5/09/97 11:00	1440	21.3	<LOQ		<LOQ	<LOQ

LOQ = 0.20 ug/sample
* pptv at 25 C and 1 atm
** Analysis by GC/MS could not confirm the presence of fenamiphos in these samples.
NA = Not Applicable

Table 6. Fenamiphos *Application Lab* Spike Results

Sample ID	Fenamiphos Mass (ug)	Expected Mass (ug)	Percent Recovery
LS1	0.29	0.40	73%
LS2	0.31	0.40	78%
LS3	0.34	0.40	85%
LS4	0.33	0.40	83%

Table 7. Fenamiphos *Application Trip* Spike Results

Sample ID	Fenamiphos Mass (ug)	Expected Mass (ug)	Percent Recovery
TS1	0.38	0.40	95%
TS2	0.40	0.40	100%
TS3	0.39	0.40	98%
TS4	0.41	0.40	103%

Table 8. Fenamiphos *Application Field* Spike Results

Sample ID	Fenamiphos Mass (ug)	Background* Mass (ug)	Corrected Mass (ug)	Expected Amount (ug)	Percent Recovery
WFS1	0.33	<LOQ	0.33	0.40	83%
SFS2	0.34	<LOQ	0.34	0.40	85%
EFS3	0.36	<LOQ	0.36	0.40	90%
NFS4	0.33	<LOQ	0.33	0.40	83%

LOQ = 0.20 ug/sample
*The mass of fenamiphos found in the collocated sample.

Table 9. Fenamiphos Ambient *Trip* Spike Results

Sample ID	Fenamiphos Mass (ug)	Expected Mass (ug)	Percent Recovery
TS1	0.38	0.40	95%
TS2	0.41	0.40	103%
TS3	0.38	0.40	95%
TS4	0.40	0.40	100%
TS5	0.32	0.40	80%
FS1	0.38	0.40	95%
FS3	0.36	0.40	90%

Table 10. Fenamiphos Ambient *Field* Spike Results

Sample ID	Fenamiphos Mass (ug)	Background* Mass (ug)	Corrected Mass (ug)	Expected Amount (ug)	Percent Recovery
FS2	0.34	<LOQ	0.34	0.40	85%
FS4	0.35	<LOQ	0.35	0.40	88%
FS5	0.37	<LOQ	0.37	0.40	93%

LOQ = 0.20 ug/sample

*The mass of fenamiphos found in the collocated sample.